

REMARKS

Claims 1-14 were pending in this application when the present Office Action was mailed on April 17, 2008. In this response, claims 1, 13, and 14 have been amended. Claims 15-20 have been added. No claims have been cancelled. Accordingly, claims 1-20 are currently pending.

In the Non-final Office Action mailed on April 17, 2008, claims 1 and 7-14 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 5,893,062. Claims 1-14 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-34 of U.S. Patent No. 6,360,202. Without conceding the merits of these rejections, Terminal Disclaimers are submitted herewith to overcome these rejections.

In the Non-final Office Action mailed on April 17, 2008, the Examiner rejected the above-mentioned pending claims under 35 U.S.C. §§ 102 and 103. The undersigned attorney wishes to thank the Examiner for engaging in a telephone interview on June 11, 2008, during which the current rejection and possible amendments were discussed. The foregoing and following remarks summarize and expand upon the points discussed during the June 11 interview. Accordingly, applicants respectfully request that this paper constitute applicants' interview summary. If the Examiner notices any deficiencies in this regard, she is encouraged to contact the undersigned attorney. For the reasons set forth in detail below, applicants submit that the present application, including each of pending claims, is in condition for allowance.

Overview

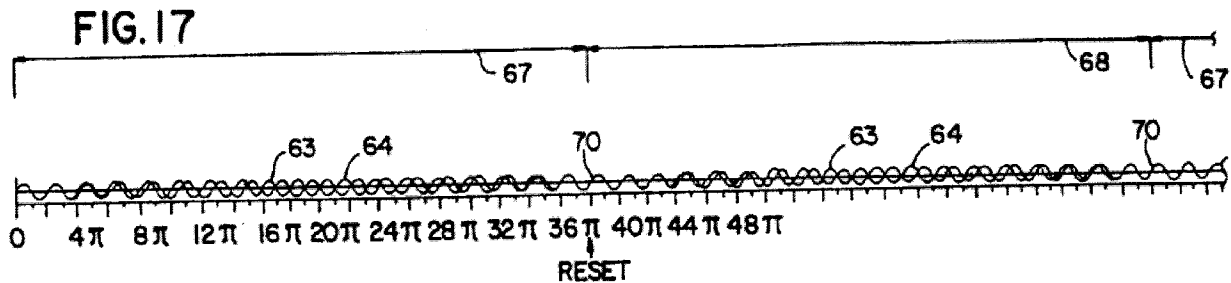
The claims of the current application are directed to, *inter alia*, a method and system for synchronizing audio and video playback when the audio and video are played at a target display rate different from their normal playback rate. The system uses the original set of audio data and the target display rate to create a new set of audio data that will play back at

approximately the target display rate. The system then determines a correspondence between the new audio data and the original video data. The system uses the information about the correspondence and the original video data to generate a new set of video data that plays back at the target display rate, such that the video data is synchronized to the audio data. One advantage of this method is that the audio and video can be displayed at a rate different from the normal rate while avoiding pitch changes that generally occur when systems play back audio and video at variable speed.

Rejection under 35 U.S.C. § 102

Claims 1-3, 8, and 12-14 were rejected under 35 U.S.C. § 102(e) as being anticipated by International Application No. WO 96/12270 to Cooper et al. ("Cooper"). Claims 4-7 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Cooper and U.S. Patent No. 5,664,227 to Mauldin et al. ("Mauldin"). Claims 9-11 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Cooper and U.S. Patent No. 5,687,095 to Haskell et al. ("Haskell"). Applicants respectfully submit that Cooper, Mauldin, and Haskell fail to disclose several features of claim 1, including "establishing a correspondence between the modified set of audio data and the original set of video data" and "creating a modified set of video data . . . based on the modified set of audio data and the correspondence between the modified set of audio data and the original set of video data."

Cooper discloses a system for seamlessly changing the playback rate of a single audio stream. The system does so by inserting extra samples into the audio stream or deleting samples from the audio stream to change the playback rate. As shown in Figure 17 of Cooper, included below, this results in the output signal 64 becoming progressively more offset from the input signal 63 (e.g. at time 20π in Fig. 17). The system then resynchronizes the input and output by resetting to the input stream. In effect, the system skips or repeats a section of input audio to resynchronize. To avoid creating audio artifacts, the system resynchronizes at points where the output signal and the input signal coincide, such as at time 70 in Figure 17.



Cooper also states that the disclosed system can be used to maintain synchronization between audio and video signals in an MPEG video. MPEG video and audio streams include synchronization codes at regular intervals. See Cooper, page 35, lines 10-20. During playback, the player compares the synchronization codes in the audio and video streams to detect if the streams are not synchronized. See Cooper, page 35, lines 14-20. If the player finds that the streams are not synchronized, it drops or repeats video frames to restore synchronization. See Cooper, page 35, lines 23-26. This can lead to annoying stutters in the video. To mitigate this problem, Cooper states that "the invention accomplishes [resynchronization] by effectively speeding up or slowing down the audio signal(s) to synchronize it to the video, and does so without any pitch change." See Cooper, page 36, lines 6-9. It does this "by adding samples to the audio to allow the audio to be slowed down to re-synchronize the signals (in the instance of advanced audio), or deleting samples to allow the audio to be sped up to re-synchronize the signals (in the instance of delayed audio)." See Cooper, page 37, lines 26-32. Thus, Cooper discloses that the player changes the speed of the audio to synchronize with the video and does not disclose "creating a modified set of video data . . . based on the modified set of audio data and the correspondence between the modified set of audio data and the original set of video data," as included in claim 1. For at least this reason, applicant respectfully submits that the rejection under Section 102 should be withdrawn.

In addition, Cooper fails to disclose "determining a target display rate that differs from the normal display rate." Cooper discloses that the system for changing audio playback speed can be used to resynchronize audio and video when the audio leads or lags the video playback. See Cooper, page 35 line 10 – page 36 line 9. Thus, the system may be used to allow playback at the normal video speed by modifying the audio stream.

Cooper does not disclose selecting a playback rate that is different from the normal display rate. Thus, Cooper also fails to disclose this feature of claim 1 and the Section 102 rejection should be withdrawn at least for this reason.

Mauldin fails to disclose the missing features of amended claim 1. The system in Mauldin partitions video into segments and selects representative frames from the segments to assemble into a video sequence. See Mauldin, Abstract. The system separately generates a transcript of the associated audio stream and identifies keywords from the transcript. Id. It then generates an audio track based on the keywords. Id. The system provides the separate data streams to the user to enable the user to skim the media. Because the output audio and video streams are generated separately, Mauldin fails to disclose "creating a modified set of video data . . . based on the modified set of audio data and the correspondence between the modified set of audio data and the original set of video data." Similarly, Mauldin makes no mention of "determining a target display rate that differs from the normal display rate."

Haskell also fails to disclose the missing features. Haskell discloses a system for changing the bit stream rate of digital video (i.e. its encoded bitrate), but does not make any reference to changing the playback rate of the video. See Haskell, Abstract.

For at least the foregoing reasons, applicants respectfully submit that Cooper, Mauldin, and Haskell fail to disclose or suggest all of the features of amended claim 1 and therefore request that the Section 102 rejection be withdrawn. Independent claims 13 and 14 include features similar to those of claim 1 and should be allowed for at least the reasons discussed above. Dependent claims 2-12 should also be allowed for at least these reasons and for the additional feature of these claims.

New Claims

New dependent claims have been added to depend on independent claim 13. Support for claims 15 and 16 may be found in the specification at least in Figure 3 and its supporting text, including page 27, line 1 to page 34, line 29. Support for claims 17 and 18

may be found at least from page 19, line 15 to page 21, line 19. Support for claim 19 may be found at least from page 49, line 33 to page 51, line 31. Support for claim 20 may be found at least from page 21, line 20 to page 23, line 4. Applicants respectfully submit that for the reasons discussed above and for the additional features of these claims, the new claims should also be allowed.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Please charge any deficiency in fees or credit any overpayment to our Deposit Account No. 50-0665, under Order No. 345288016US from which the undersigned is authorized to draw.

Dated: July 16, 2008

Respectfully submitted,

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